

What is claimed is:

1. A method for identifying a substance that modulates kinase activity comprising the steps of: (a) contacting a PAK5 kinase polypeptide or a catalytic fragment thereof with a test substance; (b) measuring the activity of said polypeptide; and (c) determining whether said substance modulates the activity of said polypeptide.
2. The method of claim 1, wherein said polypeptide or catalytic fragment thereof comprises the amino acid sequence set forth in SEQ ID NO: 30.
3. The method of claim 1, wherein said polypeptide or catalytic fragment thereof comprises the amino acid sequence set forth in SEQ ID NO: 103.
4. A method for identifying a substance that modulates kinase activity in a cell comprising the steps of: (a) expressing a PAK5 kinase polypeptide or a catalytic fragment thereof in a cell; (b) adding a test substance to said cell; and (c) monitoring a change in cell phenotype or the interaction between said polypeptide and a natural binding partner.
5. The method of claim 4, wherein said polypeptide or catalytic fragment thereof comprises the amino acid sequence set forth in SEQ ID NO: 30.
6. The method of claim 4, wherein said polypeptide or catalytic fragment thereof comprises the amino acid sequence set forth in SEQ ID NO: 103.
7. A method of detecting an agonist or antagonist of PAK5 kinase activity or kinase binding partner activity comprising (a) incubating cells that express PAK5 in the presence of a compound and (b) detecting changes in said kinase activity or said kinase binding partner activity.
8. The method of claim 3 wherein said compound is present in serum, body fluid, or a cell extract.